

paired, and some of the old college buildings pulled down.

GOthic ORNAMENTATION.

ENRICHED MOLDINGS.

THE two examples which your correspondent "W. H. B." has adduced of enriched Gothic mouldings do not, in my opinion, invalidate the theory which I suggested in a former paper,* that the architects of the Middle Ages discarded as a principle the use of carving on mouldings, as practised in Classic architecture. I might observe that the variations found in such subordinate works of art as sedilia and tombstones would be insufficient to overturn a principle traceable in the architecture of the age. We know from Vitruvius that the use of the triglyph was limited as a principle to the Doric order; and if no such writer had existed, it might have been derived from a careful study of the classic remains, notwithstanding some examples have been found where the triglyph has been used with the Ionic order. But, independently of this consideration, I think "W. H. B." is mistaken in regarding the carving on the foot of the finial in the sedilia of Exeter Cathedral as a portion of the necking mould. It appears to me to be the first swelling of the foliage of the finial:—the necking moulding is below it, and is, as usual, quite plain. With regard to the other example of "the flat ogree moulding surrounding a monument in the Lady Chapel of the same cathedral, and closely resembling the Roman water-leaf," the character of the carving is evidently Norman, and at once betrays its origin. I think the monument alluded to is the coffin slab of Bishop Simon de Apulia, who died A.D. 1223; and it is not surprising that the artist who designed it, living so near the flourishing period of Norman architecture, should have adopted forms, the use of which were probably formerly familiar to him. It occurs as an edging to the slab.

I cannot understand why "W. H. B." should be unwilling to believe that the system before indicated was a principle rigidly adopted by the middle-age architects. If it is a fact, and the evidence of "W. H. B." who evidently is a careful investigator of the subject, and who states that the above two specimens are the only examples which he recollects to have met with, strongly corroborates it, it is one which tends to raise still higher the science and artistic powers of the old architects, and proves that they had systematically discarded the shackles of the "more Romano," and had adopted a new and original view of their art. It gives us also a further insight into their mode of design, and in some measure accounts for what has always appeared, to all students of Gothic architecture, a very difficult problem to solve, viz. the great and total difference which appears between the late Norman and the Early English style—separated as they are by a comparatively small distance in date;—for if the Early English architects, dissatisfied with the exuberant decorations of the late Norman, resolved to discard such decoration and to seek their effect in richly clustered but plain mouldings, we can, at least under one aspect, discern how the peculiarities which mark their architecture have arisen.

Again, if the theory is correct, it at once disproves the idea which has been several times suggested by able writers, that the Early English architecture was founded on the Saracenic or Arabian, and imported to us at the time of the Crusades, or in consequence thereof. Now, the Saracenic architecture abounds in carved mouldings, and these of a very peculiar character:—if it can be shown, as I believe it can, that carved mouldings were never used in Early Gothic, the connection between the two styles is at once dissolved.

"W. H. B." states, that the opinion respecting the avoidance of sculpture on Gothic mouldings has occurred to many architects, but, on a more extended observation, has been discarded as not of universal application. Such, probably, may be the case, though I have never heard the opinion expressed before, and certainly have never met with it in any written or

published work. I only hope that other experienced persons will have their attention called to the subject, reminding them, however, that my suggestion is, not that carving or sculptured decoration was discarded, but that in all instances, it was applied on the mouldings, giving them a different contour, but preserving in situ their original forms.

THOMAS LITTLE.

GAS AND WATER SUPPLY.

Carshalton.—Gas works are to be forthwith erected in this village, according to the *Surry Standard*. Mr. W. M. Stears, of Hull, is the contractor. The main will probably be extended to Sutton.

Norwich.—On Tuesday week the new water-works were formally opened, and the event was celebrated by a *déjeuner* at the Assembly Rooms, at which the mayor and other civic authorities, the chairman and members of the water company, and various members of Parliament and other gentlemen were present. In the evening also there was a display of fireworks in further illustration of the pleasure of the citizens on so auspicious an occasion. The day, in fact, was set apart as a public holiday. A large party formally inspected the new works on Heigham-common and Lakenham, where Mr. J. G. Linder, the engineer-in-chief, explained the works and the process of filtration. The water is taken from the river Wensum by means of a small reservoir, into which it flows through an artificial bank of gravel and a sand-pipe 18 inches in diameter, leading into the well of the three engines of 75-horse power each, provided with six pumps, three of which are used for forcing the filtered water into the elevated service reservoir at Lakenham. The pumps together are capable of delivering 2,333 gallons per minute to the filter beds, and 1,560 gallons per minute to the service reservoir at Lakenham. The depositing reservoir at Heigham has an area of about 30,000 square feet, and will contain 1,660,000 gallons. The filtering beds, two in number, are each 190 feet long, 163 feet wide, and are together capable of filtering 2,450 gallons per minute. The main pipe from the engines to the service reservoir at Lakenham is 4,000 yards in length and 15 inches in diameter. The height to which the water is raised is 165 feet. The service reservoir at Lakenham is 170 feet square and 15 feet deep, and contains 1,484,400 gallons. No building in the city or its environs, says the *Norfolk Chronicle*, need now be without an ample supply of water at their highest stories. The main leading from the service reservoir is 15 inches in diameter. The pressure of the water on the lower part of the mains in its passage to Lakenham, varies from 75 to 80 inches on the square inch. Messrs. Lucas, the contractors for the construction of the works, employed several hundred men. There have been 20,000 yards of excavation required. The quantities of material used were 2,500,000 bricks, 15,000 yards of clay, 5,000 yards of filtering sand, 7,000 yards of filtering stone, 3,000 yards of concrete, and 40 tons of lead.

Cambridge.—At Messrs. Towgood's paper manufactory, Cambridge, says a provincial contemporary, a patent apparatus has been erected for making their own gas, which they thus obtain at about 1s. 6d. per 1,000 feet.

Exeter.—A new company has just been established at Exeter to supply the city with gas made from canal coal at 4s. 6d. per 1,000 feet. It has had the effect of reducing the price of the previously existing company from 6s. 6d. to 5s. per 1,000.

Sheffield.—A new gas company has been started here for supplying pure gas at a maximum price of 3s. per 1,000 feet, and founded upon the mutual principle of an identity of interests between producers and customers, in which the profits shall be returned to those who create them, in a reduction of price, the rate of interest being restricted to ten per cent. It is intended to dispense with an Act of Parliament by incorporating the company under the Joint-Stock Companies Act, and to obtain the consent of the boards of highways to open the streets. It is estimated that the dwellings

of the working classes at Sheffield might be lighted with gas at 2d. a week, with sufficient profit to the company.

Crewe.—Every working man's cottage here is said to be lighted with gas, at the cost of 1½d. per week.

Dumfries.—The opening of the new water-works here is about to be celebrated as at Norwich. The laying of the main pipes in Lochrutton Loch has been completed, and the water sent down to the town through the pipes for the purpose of cleansing them. "An amusing example of hydraulic power," says a local paper, "was given in Queensbury-street. Some men were putting a fire-plug to rights, and an amateur in the shape of a woman came forward to assist them, armed with a stick. She succeeded in doing exactly the opposite of what was intended: the water rushed out with full force, and actually lifted her fairly off the ground, giving her a good ducking besides, and teaching all meddlers to beware of the water-pipes."

Edinburgh.—The extensive operations long in progress on the Castle-hill, in connection with the new reservoir of the water company, are now complete, and the conclusion of the undertaking was on Friday week celebrated by a dinner in the Café Royal to the builder, Mr. John Alexander. The cistern has been constructed to contain about sixteen millions and a half of gallons, the area being 100 feet by 90, with a depth of 30. The city is now to be provided at an average rate of 570 cubic feet per minute, with a constant supply of water.

Montrose.—The gas-works in Lower Hall-street have been considerably enlarged and improved, under the superintendence of the manager, Mr. J. Reid. The alterations are said to embrace all that is most approved in construction and arrangement, so as to enable the company to greatly increase the quantity and improve the quality of their gas.

Progress of Gas-light in South America.—Mr. John Yates, of Liverpool, having lately visited Peru, with the object of calling that government's attention to some claims contracted during the struggle for independence, has returned with a contract to supply the city of Lima with gas; and what is more remarkable, the churches. Hitherto the wax candles have almost been considered part and parcel of the worship; the Bishop of Lima, however, has now consented to the introduction of the "new light." Hitherto Rio is the only town in South America, it is said, where gas-light has been introduced.

ROYAL PANOPTICON OF SCIENCE AND ART.

—This undertaking was chartered in February, 1850, and we were somewhat surprised that we heard nothing more about it. The first public meeting, however, was held a fortnight ago, and it was then stated that all the preliminary arrangements had been made, and that the building will be ready by May next. In the first instance, a plot of ground between Tavistock-street, Covent-garden, and Exeter-street, was obtained from the Duke of Bedford and others, in furtherance of the plan. It was, however, found to be attended with so much expense, in getting rid of some of the tenants already on the property, and building leases, that it was considered expedient to relinquish the idea of placing the Panopticon in that situation, and the ground on the east side of Leicester-square was then fixed upon as a position calculated to give an opportunity of advancing the interests of the corporation. This being under the paternal care of the Court of Chancery, the negotiation for the lease was necessarily much prolonged, and accompanied with great delay and difficulty, which however has at last been overcome, and the corporation has been in possession of this ground since the 5th of August last. The plans for the building have been definitively arranged, and the builder, Mr. Willson, has already made considerable progress with the building. The expenses up to this time have been about 6,000*l*. The cash in hand 8,600*l*. Liabilities, 1,600*l*. The capital of the corporation is 60,000*l*.

* See p. 511, *en*.